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METEOROLOGICAL DATA REPORT

NIKE-HYDAC STV (SR-044)
(1 December 1966)

BY

GORDON L. DUNAWAY

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

.....
ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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METEOROLOGICAL DATA REPORT

NIKE-NYDAC STV (SL-044)
(1 December 1966)

By

Gordon L. Denney

MS-141

January 1967

DA Task IV650212A127-02

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ABSTRACT

Meteorological data gathered for the launching of Mike-Hydac STV (SR-044) are presented for the Ballistics Systems Division, U. S. Air Force, Avco Corporation and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.

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INTRODUCTION

Nike-Hydac STV (SR-044) was launched from Launch Complex-33, L-314, White Sands Missile Range (WSMR), New Mexico, at 0823 hours MST, 1 December 1966.

Meteorological data used in conjunction with theoretical calculations to predict rocket impact were collected by the Meteorological Support Division, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The Ballistics Meteorologist for this firing was Gordon L. Dunaway assisted by SPC Lee Allen.

DISCUSSION

Wind data for the first 216 feet above the surface were obtained from a system composed of 5 Aerovanes mounted on a 200-foot tower and cabled to 5 component wind indicators.

From 216 to 4,000 feet above the surface, wind data were obtained from double-theodolite-observed balloon ascents.

Temperature, pressure, and humidity data, along with upper wind data from 4,000 to 77,500 feet above the surface, were obtained from standard rawinsonde observations.

Mean wind component values in each ballistic zone were determined from vertical cross sections by the equal-area method.

Theoretical rocket performance values and ballistic factors as a function of altitude were provided by ASL, and are the basis for data appearing in Table VIII.

PAYOUT		233.0	Pounds
CORIOLIS DISPLACEMENT	MILES	4.6	Miles
TITAN	TIME	20.0	Seconds
SECOND-STAGE IGNITION	ALITUDE	36,691	Feet MSL
PEAK	TIME	232.0	Seconds
	ALITUDE	693,948	Feet MSL
UNIT WIND EFFECT	HEAD	2.3815	Miles/Min
	CROSS	2.4678	Miles/Min
	TAIL	2.3815	Miles/Min
TOWER TILT EFFECT		13.83	Miles/Degrees

TABLE I. THEORETICAL ROCKET PERFORMANCE VALUES
NIKE-HYDAC SRV (SR-044)

TABLE II. BALLISTIC MOTION
NIKE-MYDAC SRV (SR-0AA)

LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS	LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS	LAYERS IN FEET ABOVE GROUND	BALLISTIC FACTORS
11- 60	.1440	1000- 1400	.0535		
60- 108	.0966	1400- 2000	.0575		
108- 148	.0629	2000- 2500	.0286		
148- 184	.0502	2500- 3000	.0195		
184- 216	.0286	3000- 3500	.0112		
216- 300	.0724	3500- 4000	.0073		
300- 400	.0533	4000- 4253	.0012		
400- 600	.0752	4253- 9000	-.0195		
600- 800	.0557	9000-14000	-.0147		
800-1000	.0400	15000-21000	-.0166		
				66000-74168	.0020

TABLE III. AEROCOILS, WIND SPEED AND DIRECTION
NIKE-HYDRA STV (92-GAA)

* Heights corresponding to Aerovane Numbers:
 1 = 25 Feet 2 = 33 Feet 3 = 168 Feet
 4 = 188 Feet 5 = 200 Feet

MEAN WIND COMPONENTS IN METERS PER HOUR									
		0615 MST		0632 MST		0704 MST		0715 MST	
AERO-	VANE	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
NO.	*	0545 MST	0615 MST	0632 MST	0704 MST	0715 MST	0725 MST	0735 MST	0800 MST
1	0.0	1.0N	0.0	0.0	0.0	4.0N	1.0E	3.5N	0.5E
2	0.0	0.0	1.0N	2.0E	0.0	0.0	1.0	0.0	3.5
3	0.0	0.0	0.0	0.0	0.0	2.0	0.5E	2.0	0.0
4	1.0E	1.0E	1.0W	0.0	0.0	0.0	2.5	0.0	2.0
5	2.0	2.0	0.0	0.0	0.0	3.0	0.5N	1.5	0.5N

MEAN WIND COMPONENTS IN METERS PER HOUR									
		0743 MST		0800 MST		0810 MST		0825 MST	
AERO-	VANE	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
NO.	*	0735 MST	0743 MST	0800 MST	0810 MST	0825 MST	0840 MST	0855 MST	0855 MST
1	2.0N	1.0E	1.0N	1.0E	0.0	0.0	0.0	0.0	0.0
2	6.5	0.0	5.0	0.0	2.0N	1.0W	1.0N	0.0	0.0
3	5.0	0.0	4.0	0.0	1.0	0.5E	2.0	0.5E	0.0
4	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.5W	0.5	0.5W	1.0N	0.0	1.0N	0.0	1.0N

MEAN WIND COMPONENTS IN MILES PER HOUR										
LAYERS IN FEET ABOVE GROUND	1 0545 MST	2 0615 MST	3 0632 MST	4 0704 MST	5 0715 MST	6 0725 MST	N-S	E-W	N-S	
N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	
216- 300	1.58	1.58	2.58	0.5W	3.58	0.0	1.0N	1.0W	0.0	0.0
300- 400	6.4	0.0	4.9	1.0	5.0	0.0	1.5N	1.0	2.0N	0.0
400- 600	9.0	2.5W	6.0	1.5	6.1	0.3N	4.0	1.0	5.0	0.1N
600- 800	11.5	3.5	8.5	1.0	9.9	1.5W	5.5	1.3	8.5	1.0
800-1000	12.5	4.0	9.5	1.5	11.5	3.4	9.4	2.3	11.5	1.5
1000-1400	7.9	3.0	10.0	8.5	8.5	4.5	12.5	3.5	9.0	0.5
1400-2000	3.0	1.5	9.0	6.5	3.1	3.0	11.0	3.0	4.0	1.0
2000-2500	0.0	5.5	5.0	4.5	2.0	1.5	4.0	1.5	2.5	1.0
2500-3000	0.5N	6.0	1.5	1.0	1.5	5.5	2.0	0.5	3.0	1.0
3000-3500	3.58	1.0	0.5	4.5	2.0	4.5	2.5	3.5	0.0	4.5
3500-4000	1.5	9.0	2.5	6.5	2.0	9.5	4.0	4.5	6.5	1.0

TABLE IV. TAIPEI-MALIBOC-MANILA MEASURED WIND DATA
NINIW-KYODA CITY (100-004)

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN MILES PER HOUR							
	0745 MST	0800 MST	0810 MST	0825 MST	10	11	12	HST
N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W	
216- 300	0.0	0.5W	2.0S	0.0	1.0N	0.0	0.0	0.0
300- 400	0.5S	0.0	5.5	0.0	1.0S	0.5W	2.5S	0.5E
400- 600	2.0	1.0E	8.5	1.5W	4.0	1.0	6.5	1.0
600- 800	6.0	0.5W	10.5	3.5	5.5	1.0	5.5	0.0
800-1000	9.5	2.5	7.5	2.5	6.0	1.0	11.5	1.5W
1000-1400	9.0	2.5	7.5	0.5	3.5	3.5	8.5	2.5
1400-2000	3.0	0.5E	7.5	1.0E	2.0	0.5	2.0	1.5
2000-2500	1.5	0.5	1.0	3.0W	1.0	3.0	1.0	0.0
2500-3000	3.5	3.0W	2.5	7.0	1.5	9.5	0.0	4.5W
3000-3500	6.0	7.5	4.0	8.0	2.0	9.0	0.5S	7.0
3500-4000	3.0	9.0	4.0	8.5	2.0	9.5	3.0	11.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA (Cont)
NIKE-HYDAC STV (SR-044)

LAYERS IN FEET ABOVE GROUND	MEAN WIND COMPONENTS IN KNOTS					
	1 0445 MST		2 0800 MST		N-S	E-W
	N-S	E-W	N-S	E-W	N-S	E-W
4000- 4253	2.05	11.3W	3.9S	12.6W		
4253- 9000	0.3W	15.2	1.9W	17.7		
9000-15000	2.2	17.8	4.6	20.1		
15000-21000	6.5	22.8	5.5	23.9		
21000-26000	6.1	28.8	6.1	31.4		
26000-32691	8.9	33.2	12.7	31.4		
32691-34000	13.6	32.1	15.8	28.4		
34000-36000	13.1	29.3	13.2	32.7		
36000-41000	8.4	33.6	8.8	32.9		
41000-46000	13.5	31.8	8.7	30.2		
46000-51000	14.4	31.0	10.2	33.3		
51000-56000	13.9	25.1	13.5	25.6		
56000-61000	13.6	11.8	14.9	12.9		
61000-66000	12.7	6.2	13.2	6.7		
66000-74168	5.5	0.5	9.1	2.3		

TABLE V. RAWNSIDE-MEASURED WIND DATA
NIKE-HYDAC STV (SR-044)

ALATINI ALTIYUK AVEVOL FETI HBI
L DFL. G G (449 IMM HBT
ALATINI UN HBI, 449

LA RIVIÈRE

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WATSON IN 1674 BORN IN 1674 DIED IN 1748
AT LUDLOW IN 1674 MARRIED IN 1694
PRESBYTER IN 1694 HILLMAN IN 1714

HELIUM-DEUTERIUM DATA SHEET

三

STATION ALTITUDE 3989.0 FEET MSL
A DEC. 66 0445 HRS MST
ASCENSION NO. 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (Cont.)

WEST SITE COORDINATES
E 468.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(UTN)	INDEX OF REFRACTION
18500.0	508.8	-9.4	-31.6	672.0	632.5	282.7	1.000152
19000.0	498.7	-10.7	-32.3	661.8	630.9	202.9	1.000150
19500.0	488.7	-11.9	-33.1	651.7	629.4	203.2	1.000147
20000.0	479.0	-13.2	-33.9	641.6	627.9	203.7	1.000145
20500.0	469.4	-14.5	-34.7	632.1	626.3	204.7	1.000143
21000.0	460.1	-15.7	-35.6	622.6	624.8	206.2	1.000140
21500.0	450.9	-17.0	-36.4	613.2	623.2	208.4	1.000138
22000.0	441.9	-18.3	-37.2	604.0	621.7	209.7	1.000136
22500.0	433.1	-19.6	-38.1	594.9	620.1	209.2	1.000134
23000.0	424.4	-20.8	-39.0	586.0	618.6	209.7	1.000132
23500.0	416.0	-22.1	-39.8	577.2	617.0	208.1	1.000130
24000.0	407.7	-23.4	-40.7	568.5	619.5	207.3	1.000128
24500.0	399.5	-24.6	-41.6	560.1	613.9	206.0	1.000126
25000.0	391.6	-25.9	-42.5	551.7	612.3	205.0	1.000124
25500.0	383.8	-27.2	-43.4	543.5	610.7	204.3	1.000122
26000.0	376.1	-28.4	-44.3	535.4	609.1	203.5	1.000120
26500.0	368.6	-29.7	-45.3	527.5	607.6	202.0	1.000118
27000.0	361.1	-31.0	-46.0	519.5	605.9	200.5	1.000116
27500.0	353.4	-32.4	-46.0	511.2	604.2	200.5	1.000115
28000.0	345.8	-33.7	-46.2	503.1	602.6	200.4	1.000113
28500.0	338.4	-35.0	-46.2	495.0	600.9	200.5	1.000111
29000.0	331.0	-36.2	-45.9	486.6	599.4	200.8	1.000109
29500.0	323.8	-37.5	-45.8	478.7	597.8	202.3	1.000107
30000.0	316.6	-38.7	-45.9	470.8	596.2	204.0	1.000106
30500.0	309.9	-39.9	-46.7	462.9	594.6	205.9	1.000104
31000.0	303.0	-41.2	-48.6	455.2	593.0	206.2	1.000102
31500.0	296.3	-42.6	-50.0	447.8	591.3	205.5	1.000100
32000.0	289.7	-44.0	-51.8	440.3	589.5	204.2	1.000098
32500.0	283.1	-45.3	-54.4	432.8	587.6	203.1	1.000097
33000.0	276.6	-46.6	-57.1	425.4	586.1	202.7	1.000095

* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0445 HRS MST
ASCESSION NO. 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (CONT.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES THTN. KNOTS	INDEX OF REFRACTION	REFRACTION
33500.0	270.3	-47.9	-60.0	23.7**	584.4	282.7	1.0000093	
34000.0	264.2	-49.2	-63.4	17.7**	582.6	283.3	1.0000092	
34500.0	258.1	-50.6	-67.6	11.6**	580.9	284.3	1.0000090	
35000.0	252.3	-51.9	-73.7	5.5**	579.2	285.3	1.0000088	
35500.0	246.5	-53.2	0.	-0. **	397.4	286.2	1.0000087	
36000.0	240.6	-54.0	0.	-0. **	390.4	287.9	1.0000085	
36500.0	235.0	-54.8	0.	-0. **	382.6	289.6	1.0000084	
37000.0	229.4	-55.7	0.	-0. **	375.0	291.1	1.0000082	
37500.0	224.0	-56.5	0.	-0. **	367.5	292.6	1.0000080	
38000.0	218.7	-57.3	0.	-0. **	360.1	293.1	1.0000079	
38500.0	213.5	-58.1	0.	-0. **	353.0	294.7	1.0000078	
39000.0	208.4	-59.0	0.	-0. **	345.9	295.6	1.0000077	
39500.0	203.5	-59.8	0.	-0. **	339.1	296.8	1.0000076	
40000.0	198.7	-60.5	0.	-0. **	332.3	297.4	1.0000074	
40500.0	193.9	-60.8	0.	-0. **	325.5	298.0	1.0000072	
41000.0	189.2	-61.1	0.	-0. **	318.1	298.3	1.0000071	
41500.0	184.6	-61.4	0.	-0. **	310.9	298.7	1.0000069	
42000.0	180.2	-61.6	0.	-0. **	303.8	299.7	1.0000068	
42500.0	175.8	-61.2	0.	-0. **	296.8	300.3	1.0000066	
43000.0	171.6	-60.8	0.	-0. **	289.1	300.8	1.0000064	
43500.0	167.4	-60.4	0.	-0. **	281.6	301.4	1.0000063	
44000.0	163.4	-61.2	0.	-0. **	274.3	301.9	1.0000062	
44500.0	159.4	-62.2	0.	-0. **	268.6	302.5	1.0000060	
45000.0	155.5	-63.1	0.	-0. **	263.2	303.3	1.0000059	
45500.0	151.7	-64.1	0.	-0. **	258.0	304.4	1.0000057	
46000.0	148.0	-65.0	0.	-0. **	252.8	305.9	1.0000056	
46500.0	144.4	-66.0	0.	-0. **	247.8	306.7	1.0000055	
47000.0	140.8	-66.6	0.	-0. **	242.9	307.5	1.0000054	
47500.0	137.2	-67.2	0.	-0. **	237.5	308.3	1.0000053	
48000.0	133.8	-67.8	0.	-0. **	232.2	309.0	1.0000052	
					227.0	309.7	1.0000051	
					296.3	322.9	1.0000051	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0445 HRS MST
ASCENSION NO. 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (Cont.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA	
					INDEX OF REFRACTION	DIRECTION DEGREES(TN)
48500.0	120.4	-68.4	-0.	221.9	557.1	297.4
49000.0	127.1	-69.0	-0.	217.0	556.3	297.3
49500.0	123.9	-69.6	-0.	212.2	555.5	297.3
50000.0	120.8	-70.2	-0.	207.4	554.7	297.2
50500.0	117.8	-70.8	-0.	202.8	553.8	297.2
51000.0	114.8	-71.4	-0.	198.3	553.0	297.2
51500.0	111.9	-72.0	-0.	193.9	552.2	297.2
52000.0	109.1	-72.6	-0.	189.6	551.4	296.7
52500.0	106.3	-73.2	-0.	185.3	550.5	296.0
53000.0	103.7	-73.8	-0.	181.2	549.7	294.8
53500.0	101.0	-73.0	-0.	175.8	550.9	293.0
54000.0	98.5	-72.0	-0.	170.5	552.3	291.6
54500.0	95.9	-72.3	-0.	166.4	551.9	290.5
55000.0	93.5	-72.6	-0.	162.4	551.4	290.1
55500.0	91.1	-72.9	-0.	158.6	551.0	292.0
56000.0	88.8	-73.2	-0.	154.7	550.6	293.9
56500.0	86.6	-72.8	-0.	150.6	551.1	295.5
57000.0	84.4	-72.5	-0.	146.6	551.5	297.1
57500.0	82.3	-72.2	-0.	142.6	552.0	298.6
58000.0	80.2	-71.9	-0.	138.8	552.4	300.2
58500.0	78.2	-71.5	-0.	135.1	552.9	302.5
59000.0	76.2	-71.2	-0.	131.5	553.3	305.2
59500.0	74.3	-70.9	-0.	128.0	553.8	307.2
60000.0	72.4	-70.5	-0.	124.6	554.2	308.8
60500.0	70.6	-70.2	-0.	121.3	554.7	310.1
61000.0	68.9	-69.9	-0.	118.0	555.1	311.0
61500.0	67.1	-69.6	-0.	114.9	555.6	312.5
62000.0	65.4	-69.2	-0.	111.3	556.0	314.9
62500.0	63.8	-68.9	-0.	108.8	556.5	317.6
63000.0	62.2	-68.6	-0.	105.9	556.9	323.4

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
 1 DEC. 66 0445 HRS MST
 ASCENSION NO. 949

UPPER AIR DATA
 0649003902
 WHITE SANDS SITE
 TABLE VI (Cont.)

MSTH SITE COORDINATES
 E 486.580 FEET
 N 185.043 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SOUND METER KNOTS	SPEED OF WIND KNOTS	INDEX OF REFRACTION	
							INDEX OF REFRACTION	INDEX OF REFRACTION
63500.0	60.6	-68.2	0.	-0.	103.1	557.4	329.2	14.5
64000.0	59.1	-67.9	0.	-0.	100.3	557.8	329.4	15.1
64500.0	57.6	-67.6	0.	-0.	97.7	558.3	328.6	16.0
65000.0	56.2	-67.3	0.	-0.	95.0	558.7	328.0	16.3
65500.0	54.8	-66.9	0.	-0.	92.5	559.2	327.6	15.9
66000.0	53.4	-66.6	0.	-0.	90.0	559.6	326.6	15.8
66500.0	52.1	-66.2	0.	-0.	87.7	560.2	324.0	16.3
67000.0	50.8	-65.7	0.	-0.	85.3	560.9	321.4	16.7
67500.0	49.6	-65.2	0.	-0.	83.1	561.5	328.2	15.7
68000.0	48.4	-64.7	0.	-0.	80.9	562.2	326.2	14.6
68500.0	47.2	-64.2	0.	-0.	78.8	562.8	324.5	13.1
69000.0	46.1	-63.8	0.	-0.	76.7	563.4	323.8	11.4
69500.0	45.0	-63.3	0.	-0.	74.7	564.1	323.5	9.8
70000.0	43.9	-62.8	0.	-0.	72.7	564.7	323.4	9.3
70500.0	42.8	-62.3	0.	-0.	70.8	565.4	323.0	8.8
71000.0	41.8	-61.8	0.	-0.	68.9	566.0	322.9	7.5
71500.0	40.8	-61.4	0.	-0.	67.1	566.7	322.7	5.8
72000.0	39.8	-60.9	0.	-0.	65.3	567.3	322.1	4.8
72500.0	38.8	-60.4	0.	-0.	63.6	567.9	321.7	5.0
73000.0	37.9	-59.9	0.	-0.	61.9	568.6	321.3	5.1
73500.0	37.0	-59.4	0.	-0.	60.3	569.2	320.6	3.5
74000.0	36.1	-59.0	0.	-0.	58.7	569.9	319.9	1.9
74500.0	35.2	-58.5	0.	-0.	57.2	570.5	319.7	1.7
75000.0	34.4	-58.0	0.	-0.	55.7	571.1	319.2	2.1
75500.0	33.6	-57.5	0.	-0.	54.2	571.8	319.0	3.0
76000.0	32.7	-57.0	0.	-0.	52.8	572.4	318.8	4.6
76500.0	32.0	-56.6	0.	-0.	51.4	573.0	318.7	6.2
77000.0	31.2	-56.4	0.	-0.	50.2	573.2	318.9	7.2
77500.0	30.5	-56.2	0.	-0.	48.9	573.5	318.0	8.1
78000.0	29.8	-56.1	0.	-0.	47.8	573.7	315.5	9.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
DEC. 66 0445 HRS MST
ASCENSION NO. 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (Cont.)

WEST SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TIN) KNOTS	INDEX OF REFRACTION
78500.0	29.1	-55.9	-0. **	46.6	573.9	2.8	1.000010
79000.0	28.4	-55.7	-0. **	45.5	574.2	4.2	1.000010
79500.0	27.7	-55.5	-0. **	44.4	574.4	1.8	1.000010
80000.0	27.1	-55.3	-0. **	43.3	574.6	356.3	1.000010
80500.0	26.4	-55.2	-0. **	42.3	574.9	350.8	1.000009
81000.0	25.8	-55.0	-0. **	41.2	575.1	354.6	1.000009
81500.0	25.2	-54.8	-0. **	40.2	575.3	0.9	1.000009
82000.0	24.6	-54.6	-0. **	39.3	575.6	6.9	1.000009
82500.0	24.0	-54.5	-0. **	38.3	575.8	5.1	1.000009
83000.0	23.5	-54.3	-0. **	37.4	576.0	3.4	1.000009
83500.0	22.9	-54.1	-0. **	36.5	576.3	4.9	1.000008
84000.0	22.4	-53.9	-0. **	35.6	576.5	14.6	1.000008
84500.0	21.9	-53.7	-0. **	34.7	576.8	24.3	1.000008
85000.0	21.4	-53.5	-0. **	33.9	577.1	29.5	1.000008
85500.0	20.9	-53.2	-0. **	33.1	577.4	30.2	1.000007
86000.0	20.4	-53.0	-0. **	32.3	577.8	31.0	1.000007
86500.0	20.0	-52.7	-0. **	31.5	578.1	33.0	1.000007
87000.0	19.5	-52.5	-0. **	30.8	578.4	36.0	1.000007
87500.0	19.1	-52.2	-0. **	30.0	578.8	39.0	1.000007
88000.0	18.6	-52.0	-0. **	29.3	579.1	38.5	1.000007
88500.0	18.2	-51.7	-0. **	28.6	579.4	32.8	1.000006
89000.0	17.8	-51.4	-0. **	27.9	579.8	27.2	1.000006
89500.0	17.4	-51.2	-0. **	27.3	580.1	21.6	1.000006
90000.0	17.0	-50.9	-0. **	26.6	580.4	16.4	1.000006
90500.0	16.6	-50.7	-0. **	26.0	580.8	11.3	1.000006
91000.0	16.2	-50.4	-0. **	25.4	581.1	6.2	1.000006
91500.0	15.9	-50.2	-0. **	24.8	581.4	7.9	1.000006
92000.0	15.5	-49.9	-0. **	24.2	581.8	13.4	1.000005
92500.0	15.1	-49.7	-0. **	23.6	582.1	18.8	1.000005
93000.0	14.8	-49.4	-0. **	23.0	582.4	23.9	1.000005

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0445 HRS MST
ASCENSION NO. 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (Cont.)

WSTN SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
93500.0	14.5	-49.2	0.	22.5	582.9	27.8	22.1
94000.0	14.1	-48.9	0.	22.0	583.1	31.6	24.1
94500.0	13.8	-48.6	0.	21.4	583.4	35.5	26.1
95000.0	13.5	-48.4	0.	20.9	583.8	38.0	27.1
95500.0	13.2	-48.1	0.	20.4	584.1	40.2	27.9
96000.0	12.9	-47.9	0.	19.9	584.4	42.5	28.7
96500.0	12.6	-47.6	0.	19.5	584.8	43.9	28.8
97000.0	12.3	-47.4	0.	19.0	585.1	44.4	28.2
97500.0	12.0	-47.1	0.	18.5	585.4	44.9	27.6
98000.0	11.8	-46.9	0.	18.1	585.7	45.2	27.0
98500.0	11.5	-46.6	0.	17.7	586.1	44.2	26.2
99000.0	11.2	-46.3	0.	17.2	586.4	43.2	25.5
99500.0	11.0	-46.1	0.	16.8	586.7	42.1	24.7
100000.0	10.7	-45.8	0.	16.4	587.1	43.1	24.8
100500.0	10.5	-45.6	0.	16.0	587.4	44.6	25.2
101000.0	10.2	-45.3	0.	15.7	587.7	46.2	25.6
101500.0	10.0	-45.1	0.	15.3	588.0	47.0	25.8
102000.0	9.8	-44.8	0.	14.9	588.4	46.7	25.7
102500.0	9.6	-44.6	0.	14.6	588.7	46.4	25.6
103000.0	9.3	-44.3	0.	14.2	589.0	46.2	25.5
103500.0	9.1	-44.1	0.	13.9	589.4	49.1	25.3
104000.0	8.9	-44.0	0.	13.6	589.4	52.0	25.2
104500.0	8.7	-44.4	0.	13.3	588.9	55.0	25.0
105000.0	8.5	-44.7	0.	13.0	588.5	58.7	24.9
105500.0	8.3	-45.1	0.	12.7	588.1	62.9	24.8
106000.0	8.1	-45.4	0.	12.5	587.6	67.1	24.8
106500.0	8.0	-45.7	0.	12.2	587.2	67.7	24.1
107000.0	7.8	-46.1	0.	11.9	586.7	65.0	22.6
107500.0	7.6	-46.4	0.	11.7	586.3	65.0	21.8
108000.0	7.4	-46.8	0.	11.5	585.9	65.0	21.0

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0445 HRS MST
ASCENSION NO., 949

UPPER AIR DATA
0649003902
WHITE SANDS SITE
TABLE VI (Cont.)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TH)	WIND SPEED KNOTS	INDEX OF REFRACTION
108500.0	7.3	-47.1	0.	-0.	**	11.2	585.4	1.000002	
109000.0	7.1	-47.5	0.	-0.	**	11.0	585.0	1.000002	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

WSTM SITE COORDINATES
E 488,580 FEET
N 105,045 FEET

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 950

UPPER AIR DATA
0655003905
WHITE SANDS SITE
TABLE VII

WSTM SITE COORDINATES
E 400° 580 FEET
N 185° 645 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE C	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC	SOUND METER KNOTS	WIND DIRECTION DEGREES ITN.	WIND SPEED, KNOTS	INDEX OF REFRACTION
3989.0	882.8	3.1	-4.6	57.0	1111.3	647.8	0.	0.	1.000269
4000.0	882.4	3.1	-4.6	56.7	1110.8	647.8	359.2	0.0	1.000269
4500.0	866.1	5.3	-5.0	47.3	1081.6	650.4	323.3	0.9	1.000262
5000.0	850.2	8.3	-2.8	45.5	1050.3	653.9	287.3	1.7	1.000258
5500.0	834.7	11.9	-2.9	43.5	1028.9	654.7	251.4	2.6	1.000253
6000.0	819.5	9.5	-2.9	41.5	1007.8	655.4	215.4	3.5	1.000248
6500.0	804.6	9.8	-3.4	39.4	988.6	655.7	216.2	4.4	1.000243
7000.0	789.8	8.9	-5.2	36.7	974.2	654.4	236.6	5.3	1.000237
7500.0	775.4	7.7	-7.1	34.1	960.1	653.2	246.4	8.0	1.000231
8000.0	761.2	6.7	-9.1	31.5	946.1	651.9	251.6	11.4	1.000226
8500.0	747.2	5.7	-11.1	28.8	932.4	650.7	258.0	14.0	1.000221
9000.0	733.5	5.6	-12.1	26.7	915.7	650.5	265.1	15.9	1.000216
9500.0	720.0	5.8	-12.9	24.7	898.1	650.8	270.1	17.3	1.000211
10000.0	706.7	6.1	-13.6	22.8	880.7	651.1	273.3	18.0	1.000207
10500.0	693.1	6.4	-14.5	20.8	863.7	651.4	277.7	18.5	1.000202
11000.0	680.9	6.6	-15.5	18.9	847.1	651.6	283.1	18.5	1.000198
11500.0	668.4	6.9	-16.6	17.0	830.9	651.9	285.2	18.4	1.000193
12000.0	655.9	5.8	-17.3	17.1	818.5	650.6	283.7	18.3	1.000190
12500.0	643.7	4.8	-18.1	17.3	806.3	649.4	282.9	18.6	1.000187
13000.0	631.7	3.7	-18.9	17.4	794.3	648.2	282.7	19.2	1.000184
13500.0	620.0	2.7	-19.7	17.5	782.5	646.9	282.3	19.7	1.000181
14000.0	608.4	1.6	-20.4	17.6	770.8	645.7	281.9	20.1	1.000178
14500.0	597.1	0.6	-21.2	17.8	759.4	644.5	283.1	20.2	1.000175
15000.0	585.9	-0.4	-22.0	17.9	748.1	643.2	284.4	20.4	1.000172
15500.0	574.9	-1.5	-22.9	18.0	737.0	641.9	285.2	20.5	1.000169
16000.0	563.7	-2.8	-23.9	18.0	726.1	640.4	285.6	20.5	1.000166
16500.0	552.8	-4.1	-24.9	18.0	715.3	638.9	285.5	20.3	1.000164
17000.0	542.0	-5.3	-26.0	18.0	704.7	637.4	284.4	20.4	1.000161
17500.0	531.5	-6.6	-27.1	18.0	694.3	635.9	282.4	21.1	1.000158
18000.0	521.2	-7.8	-28.1	18.0	684.1	634.4	281.0	21.2	1.000156

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 450

UPPER AIR DATA
0655003905
WHITE SANDS SITE
TABLE VII (Cont.)

WSTM SITE COORDINATES
E 488.380 FEET
N 185.041 FEET

GEOGRAPHIC ALTITUDE METERS	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
18500.0	511.1	-9.1	-29.1	18.0	674.0	632.9	21.0
19000.0	501.1	-10.3	-30.2	18.0	664.1	631.4	21.0
19500.0	491.4	-11.6	-31.2	18.0	654.3	629.9	21.1
20000.0	481.9	-12.8	-32.3	18.0	644.7	628.3	21.2
20500.0	472.5	-14.1	-33.3	18.0	635.3	626.8	21.3
21000.0	463.3	-15.3	-34.4	18.0	626.0	625.3	21.4
21500.0	454.0	-16.6	-35.4	19.1	616.5	623.7	21.5
22000.0	444.7	-17.9	-36.5	19.2	607.0	622.1	21.6
22500.0	435.6	-19.2	-37.5	18.3	597.6	620.5	21.7
23000.0	426.7	-20.5	-38.6	18.4	588.4	618.9	21.8
23500.0	418.0	-21.8	-39.6	18.5	579.4	617.3	21.9
24000.0	409.5	-23.1	-40.7	18.6	570.5	615.7	22.0
24500.0	401.1	-24.4	-41.7	18.7	561.6	614.1	22.1
25000.0	392.9	-25.7	-42.8	18.8	553.2	612.5	22.2
25500.0	384.9	-27.0	-43.8	18.9	544.8	610.9	22.3
26000.0	376.9	-28.3	-44.4	20.0	536.3	609.3	22.4
26500.0	368.9	-29.6	-43.9	23.9	527.7	607.7	22.5
27000.0	361.1	-30.9	-43.6	27.7	519.3	606.1	22.6
27500.0	353.5	-32.2	-43.6	31.6	511.0	604.5	22.7
28000.0	346.0	-33.4	-43.7	35.5	502.8	602.9	22.8
28500.0	338.6	-34.7	-44.0	35.7	494.6	601.3	22.9
29000.0	331.2	-36.0	-46.0	35.3	486.4	599.7	23.0
29500.0	324.0	-37.3	-47.3	34.9	478.4	598.1	23.1
30000.0	316.9	-38.5	-48.6	34.5	470.6	596.5	23.2
30500.0	310.1	-39.8	-49.8	34.1	462.9	594.8	23.3
31000.0	303.1	-40.9	-51.9	30.2**	454.8	593.4	23.4
31500.0	296.4	-42.1	-54.2	25.8**	446.8	591.9	23.5
32000.0	289.7	-43.2	-56.7	21.3**	438.9	590.5	23.6
32500.0	283.2	-44.3	-59.5	16.8**	431.2	589.1	23.7
33000.0	276.9	-45.4	-62.9	12.4**	423.6	587.0	23.8

* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 950

UPPER AIR DATA
0655003905
WHITE SANDS SITE
TABLE VII (Cont)

WSTM SITE COORDINATES
E 488.580 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	270.7	-46.5	-67.0	416.1	586.2	296.4	34.1	1.000093
34000.0	264.6	-47.6	-73.5	408.8	584.7	299.8	34.6	1.000091
34500.0	258.6	-49.7	0.	-0. **	401.6	583.3	300.8	1.000089
35000.0	252.6	-49.8	0.	-0. **	394.1	581.9	301.3	1.000088
35500.0	246.7	-50.9	0.	-0. **	386.8	580.5	301.8	1.000086
36000.0	240.9	-52.0	0.	-0. **	379.6	579.0	302.2	1.000085
36500.0	235.3	-53.1	0.	-0. **	372.6	577.6	301.2	1.000083
37000.0	229.8	-54.2	0.	-0. **	365.7	576.2	299.5	31.8
37500.0	224.4	-55.3	0.	-0. **	358.9	574.7	297.6	32.0
38000.0	219.2	-56.4	0.	-0. **	352.3	573.3	295.6	32.5
38500.0	214.1	-57.5	0.	-0. **	345.8	571.9	293.4	34.3
39000.0	209.1	-58.5	0.	-0. **	339.4	570.4	291.4	36.1
39500.0	204.1	-59.4	0.	-0. **	332.7	569.3	290.4	36.6
40000.0	199.2	-60.0	0.	-0. **	325.6	568.5	289.5	37.2
40500.0	194.4	-60.6	0.	-0. **	318.7	567.6	288.9	36.4
41000.0	189.7	-61.3	0.	-0. **	312.0	566.8	288.3	35.7
41500.0	185.2	-61.4	0.	-0. **	304.6	566.7	287.7	34.1
42000.0	180.7	-61.1	0.	-0. **	297.0	567.0	287.1	32.3
42500.0	176.4	-60.9	0.	-0. **	289.5	567.3	285.6	32.4
43000.0	172.1	-60.7	0.	-0. **	282.2	567.6	283.8	33.1
43500.0	168.0	-60.4	0.	-0. **	275.1	567.9	282.3	33.4
44000.0	163.9	-60.2	0.	-0. **	268.2	568.2	281.3	33.1
44500.0	159.9	-60.5	0.	-0. **	262.0	567.8	280.7	33.2
45000.0	156.0	-61.3	0.	-0. **	256.5	566.8	280.7	33.5
45500.0	152.1	-62.1	0.	-0. **	251.1	565.7	281.3	33.7
46000.0	148.4	-62.8	0.	-0. **	245.8	564.7	283.2	33.6
46500.0	144.7	-63.6	0.	-0. **	240.7	563.6	285.1	33.5
47000.0	141.2	-64.4	0.	-0. **	235.6	562.6	286.6	33.9
47500.0	137.7	-65.2	0.	-0. **	230.7	561.5	288.0	34.3
48000.0	134.3	-66.0	0.	-0. **	225.8	560.5	288.2	33.2

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 950

UPPER AIR DATA
0655003905
WHITE SANDS SITE
TABLE VII (Cont.)

WSTM SITE COORDINATES
E 488,580 FEET
N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
48500.0	131.0	-66.7	0.	-0.	221.1	559.4	288.3	32.1
49000.0	127.8	-67.5	0.	-0.	216.5	558.4	288.0	31.8
49500.0	124.6	-68.3	0.	-0.	211.9	557.3	287.5	31.7
50000.0	121.6	-69.1	0.	-0.	207.5	556.3	287.0	32.4
50500.0	118.6	-69.8	0.	-0.	203.2	555.2	286.4	33.6
51000.0	115.6	-70.6	0.	-0.	198.9	554.1	286.1	35.0
51500.0	112.7	-70.9	0.	-0.	194.2	553.8	286.1	36.6
52000.0	109.9	-71.0	0.	-0.	189.4	553.6	285.8	37.2
52500.0	107.1	-71.1	0.	-0.	184.7	553.5	285.2	37.0
53000.0	104.4	-71.2	0.	-0.	180.1	553.3	286.0	36.5
53500.0	101.7	-71.3	0.	-0.	175.6	553.1	287.9	35.6
54000.0	99.1	-71.5	0.	-0.	171.3	553.0	289.0	34.7
54500.0	96.6	-71.6	0.	-0.	167.0	552.8	289.1	33.8
55000.0	94.2	-71.7	0.	-0.	162.9	552.7	289.5	33.2
55500.0	91.8	-71.8	0.	-0.	158.8	552.5	290.2	33.3
56000.0	89.5	-71.9	0.	-0.	154.9	552.4	291.0	33.3
56500.0	87.2	-72.0	0.	-0.	151.1	552.2	292.5	33.5
57000.0	85.0	-72.1	0.	-0.	147.3	552.1	294.0	33.6
57500.0	82.8	-72.3	0.	-0.	143.7	551.9	295.2	32.3
58000.0	80.8	-71.9	0.	-0.	139.8	552.3	296.4	30.9
58500.0	78.7	-71.4	0.	-0.	135.9	553.1	298.3	29.7
59000.0	76.6	-70.8	0.	-0.	132.1	553.9	300.6	28.5
59500.0	74.8	-70.2	0.	-0.	128.5	554.7	302.4	26.9
60000.0	73.0	-69.6	0.	-0.	124.9	555.6	303.3	24.8
60500.0	71.1	-69.0	0.	-0.	121.4	556.4	305.1	22.8
61000.0	69.4	-68.4	0.	-0.	118.0	557.2	310.6	21.4
61500.0	67.6	-67.8	0.	-0.	114.7	558.0	316.0	20.0
62000.0	65.9	-67.2	0.	-0.	111.6	558.8	320.6	18.7
62500.0	64.3	-66.6	0.	-0.	108.5	559.6	325.0	17.4
63000.0	62.7	-66.1	0.	-0.	105.4	560.4	327.7	16.7

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
 1 DEC. 66 0800 HRS MST
 ASCENSION NO. 950

UPPER AIR DATA
 0655003905
 WHITE SANDS SITE
 TABLE VII (Cont.)

WSTM SITE COORDINATES
 E 488.580 FEET
 N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	61.1	-65.8	0.	-0. **	102.7	560.7	330.3	15.9	1.000023
64000.0	59.6	-65.9	0.	-0. **	100.2	560.6	327.7	17.2	1.000022
64500.0	58.1	-65.9	0.	-0. **	97.8	560.5	323.7	18.9	1.000022
65000.0	56.7	-66.0	0.	-0. **	95.4	560.5	321.8	19.7	1.000021
65500.0	55.3	-66.0	0.	-0. **	93.0	560.4	323.0	19.3	1.000021
66000.0	54.0	-66.1	0.	-0. **	90.8	560.3	324.1	18.8	1.000020
66500.0	52.6	-65.9	0.	-0. **	88.5	560.6	323.5	17.9	1.000020
67000.0	51.3	-65.2	0.	-0. **	86.0	561.5	322.9	17.0	1.000019
67500.0	50.1	-64.5	0.	-0. **	83.7	562.4	327.6	15.6	1.000019
68000.0	48.9	-63.8	0.	-0. **	81.4	563.4	337.8	13.8	1.000018
68500.0	47.7	-63.1	0.	-0. **	79.1	564.3	347.9	12.0	1.000018
69000.0	46.5	-62.4	0.	-0. **	76.9	565.2	346.8	10.8	1.000017
69500.0	45.4	-61.7	0.	-0. **	74.8	566.2	345.7	9.6	1.000017
70000.0	44.3	-61.0	0.	-0. **	72.8	567.1	346.5	8.7	1.000016
70500.0	43.2	-60.3	0.	-0. **	70.8	568.0	349.1	8.1	1.000016
71000.0	42.2	-60.0	0.	-0. **	69.0	568.5	351.4	7.4	1.000015
71500.0	41.2	-59.8	0.	-0. **	67.3	568.8	339.6	6.6	1.000015
72000.0	40.2	-59.5	0.	-0. **	65.5	569.1	327.8	5.8	1.000015
72500.0	39.3	-59.3	0.	-0. **	64.0	569.4	322.6	5.8	1.000014
73000.0	38.3	-59.0	0.	-0. **	62.4	569.8	324.7	6.8	1.000014
73500.0	37.4	-58.8	0.	-0. **	60.8	570.1	326.9	7.7	1.000014
74000.0	36.5	-58.5	0.	-0. **	59.3	570.4	328.5	8.6	1.000013
74500.0	35.7	-58.3	0.	-0. **	57.9	570.7	330.0	9.5	1.000013
75000.0	34.8	-58.1	0.	-0. **	56.4	571.1	333.7	10.3	1.000013
75500.0	34.0	-57.8	0.	-0. **	55.0	571.4	342.9	10.8	1.000012
76000.0	33.2	-57.6	0.	-0. **	53.7	571.7	352.2	11.3	1.000012
76500.0	32.4	-57.3	0.	-0. **	52.3	572.0	1.6	11.9	1.000012
77000.0	31.6	-57.1	0.	-0. **	51.0	572.3	11.2	12.6	1.000011
77500.0	30.9	-56.8	0.	-0. **	49.8	572.7	20.8	13.3	1.000011
78000.0	30.2	-56.6	0.	-0. **	48.5	573.0	21.5	13.4	1.000011

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 950

UPPER AIR DATA
065200Z905
WHITE SANDS SITE
TABLE VII (Cont)

WGM SITE COORDINATES
N 40° 38' 300 FEET
N 105.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED OF WIND KNOTS	INDEX OF REFRACTION
78500.0	29.4	-56.4	0.	-0.	47.3	573.3	20.5	1.000011
79000.0	28.7	-56.1	0.	-0.	46.2	573.6	19.3	1.000010
79500.0	28.1	-55.9	0.	-0.	45.0	574.0	17.6	1.000010
80000.0	27.4	-55.6	0.	-0.	43.9	574.4	15.9	1.000010
80500.0	26.8	-55.4	0.	-0.	42.8	574.6	16.7	1.000010
81000.0	26.1	-55.1	0.	-0.	41.7	574.9	21.8	1.000009
81500.0	25.5	-54.7	0.	-0.	40.7	575.5	26.9	1.000009
82000.0	24.9	-54.3	0.	-0.	39.7	576.1	27.7	1.0.0
82500.0	24.4	-53.8	0.	-0.	38.7	576.6	25.9	1.0.7
83000.0	23.8	-53.4	0.	-0.	37.7	577.2	24.1	1.1.3
83500.0	23.2	-52.9	0.	-0.	36.8	577.8	25.7	1.2.0
21	84000.0	22.7	-52.5	0.	-0.	35.9	578.4	26.7
	84500.0	22.2	-52.0	0.	-0.	35.0	579.0	31.7
	85000.0	21.7	-51.6	0.	-0.	34.1	579.6	31.1
	85500.0	21.2	-51.1	0.	-0.	33.2	580.2	28.8
	86000.0	20.7	-50.7	0.	-0.	32.4	580.8	26.4
	86500.0	20.2	-50.2	0.	-0.	31.6	581.4	27.7
	87000.0	19.8	-49.8	0.	-0.	30.8	582.0	31.7
	87500.0	19.3	-49.3	0.	-0.	30.0	582.6	35.7
	88000.0	18.9	-48.9	0.	-0.	29.3	583.2	37.9
	88500.0	18.4	-48.4	0.	-0.	28.6	583.7	38.4
	89000.0	18.0	-47.9	0.	-0.	27.9	584.3	38.8
	89500.0	17.6	-47.5	0.	-0.	27.2	584.9	39.3
	90000.0	17.2	-46.9	0.	-0.	26.5	585.7	39.7
	90500.0	16.8	-46.4	0.	-0.	25.8	586.6	40.0
	91000.0	16.4	-45.5	0.	-0.	25.2	587.5	41.4
	91500.0	16.1	-44.8	0.	-0.	24.5	588.3	45.4
	92000.0	15.7	-44.2	0.	-0.	23.9	589.2	49.4
	92500.0	15.4	-43.5	0.	-0.	23.3	590.1	53.0
	93000.0	15.0	-42.8	0.	-0.	22.7	590.9	53.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
1 DEC. 66 0800 HRS MST
ASCENSION NO. 950

UPPER AIR DATA
0655003905
WHITE SANDS SITE
TABLE VII (Cont.)

WEST SITE COORDINATES
E 488.500 FEET
N 185.045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF WIND KNOTS	WIND DATA INDEX SPEED KNOTS	REFRACTION
		AIR DEWPONT DEGREES	CENTIGRADE					
93500.0	14.7	-42.9	0.	-0.	**	22.2	590.8	53.2
94000.0	14.4	-43.1	0.	-0.	**	21.7	590.6	53.3
94500.0	14.0	-43.2	0.	-0.	**	21.3	590.4	54.4
95000.0	13.7	-43.4	0.	-0.	**	20.8	590.3	55.6
95500.0	13.4	-43.5	0.	-0.	**	20.4	590.1	56.8
96000.0	13.1	-43.6	0.	-0.	**	19.9	589.9	57.1
96500.0	12.8	-43.8	0.	-0.	**	19.5	589.7	57.1
97000.0	12.5	-43.9	0.	-0.	**	19.1	589.5	57.0
97500.0	12.3	-44.1	0.	-0.	**	18.7	589.3	56.9
98000.0	12.0	-44.2	0.	-0.	**	18.2	589.2	56.6
98500.0	11.7	-44.0	0.	-0.	**	17.8	589.5	56.4
99000.0	11.5	-43.8	0.	-0.	**	17.4	589.7	56.1
99500.0	11.2	-43.5	0.	-0.	**	17.0	590.0	54.7
100000.0	11.0	-43.3	0.	-0.	**	16.6	590.3	53.3
100500.0	10.7	-43.1	0.	-0.	**	16.2	590.6	51.9
101000.0	10.5	-42.9	0.	-0.	**	15.9	590.9	52.4
101500.0	10.3	-42.6	0.	-0.	**	15.5	591.2	54.3
102000.0	10.0	-42.4	0.	-0.	**	15.1	591.5	56.3
102500.0	9.8	-42.6	0.	-0.	**	14.8	591.2	58.2
103000.0	9.6	-42.8	0.	-0.	**	14.5	591.0	59.8
103500.0	9.4	-43.0	0.	-0.	**	14.2	590.7	61.4
104000.0	9.2	-43.2	0.	-0.	**	13.9	590.4	63.9
104500.0	9.0	-43.5	0.	-0.	**	13.6	590.1	67.1
105000.0	8.8	-43.7	0.	-0.	**	13.3	589.9	72.7
105500.0	8.6	-43.9	0.	-0.	**	13.0	589.6	78.3
106000.0	8.4	-44.1	0.	-0.	**	12.7	589.3	82.6
106500.0	8.2	-44.3	0.	-0.	**	12.5	589.0	79.9
107000.0	8.0	-44.5	0.	-0.	**	12.2	588.8	77.1
107500.0	7.8	-44.7	0.	-0.	**	11.9	588.5	74.4
108000.0	7.7	-44.8	0.	-0.	**	11.7	588.4	75.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.0 FEET MSL
 1 DEC. 66 0800 HRS MST
 ASCENSION NO. 950

UPPER AIR DATA
 0655003905
 WHITE SANDS SITE
 TABLE VII (Cont)

WSTM SITE COORDINATES
 E 488,580 FEET
 N 185,045 FEET

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPONT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
108500.0	7.5	-44.5	0.	-0. **	11.4	588.7	12.1
109000.0	7.3	-44.3	0.	-0. **	11.1	589.1	12.2
109500.0	7.2	-44.0	0.	-0. **	10.9	589.5	1.000002
110000.0	7.0	-43.7	0.	-0. **	10.6	589.8	1.000002
110500.0	6.8	-43.8	0.	-0. **	10.4	589.7	1.000002
111000.0	6.7	-44.5	0.	-0. **	10.2	588.8	1.000002
111500.0	6.5	-45.1	0.	-0. **	10.0	588.0	1.000002
112000.0	6.4	-45.8	0.	-0. **	9.8	587.1	1.000002

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

RELEASE TIME (MST)	PIBAL	SECOND-STAGE IMPACT DISPLACEMENT IN MILES DUE TO WIND						AZI- MUTH (DEG- REES)	THEORETICAL IMPACT FROM LAUNCHER (IN MILES)
		11-216 FT	216-4000 FT	4000-74168 FT	TOTAL	N-S	E-W		
0445	0545	.26S	.09W	7.29S	2.73W	5.78N	12.95W	1.77S	15.77W
0445	0615	.35N	.48E	7.20S	4.65W	5.78N	12.95W	1.07S	17.12W
0445	0652	0.0	0.0	6.66S	2.31W	5.78N	12.95W	0.88S	15.26W
0445	0704	2.40N	.40E	6.03S	2.16W	5.78N	12.95W	2.15N	14.71W
0445	0715	2.65N	.14E	5.69S	1.66W	5.78N	12.95W	2.74N	14.47W
0445	0725	3.68N	.36E	5.40S	.83W	5.78N	12.95W	4.06N	13.42W
0445	0735	3.20N	.32E	5.23S	1.40W	5.78N	12.95W	3.75N	14.03W
0445	0745	2.37N	.32E	4.20S	.97W	5.78N	12.95W	3.95N	13.60W
0445	0800	.68N	.24W	7.05S	1.86W	5.78N	12.95W	0.59S	15.05W
0445	0810	.60N	.08E	2.93S	2.13W	5.78N	12.95W	3.45N	15.00W
0800*	0823*	.07N	0.0	4.84S	1.06W	5.42N	10.33W	0.65N	11.39W

* Post-Shoot Data

LAUNCHER SETTING (ELEVATION 85.0 DEGREES QE)	AZIMUTH MILES FROM LAUNCHER (DEG- REES)		
	RANGE	N-S	E-W
NO WIND IMPACT	012.5	68.87	67.24N
PREDICTED SECOND-STAGE IMPACT	008.7	68.03	14.91E
SECOND-STAGE IMPACT, RADAR TRACK (R-128)	357.6	70.00	10.31E
PREDICTED BOOSTER IMPACT	356.2	83.48	2.93W
ACTUAL BOOSTER IMPACT	018.0	1.40	5.53W
	N/A	N/A	.43E
		N/A	N/A

TABLE VII. IMPACT PREDICTION DATA
NIKE-HYDAC STV (SR-044)

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R&D

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13. ABSTRACT Meteorological data gathered for the launching of Nike-Hydac STV (SR-044) are presented for the Ballistics Systems Division, U. S. Air Force, Avco Corporation and for ballistic studies. The data appear, along with calculated ballistic data, in tabular form.		

DD FORM 1 JAN 64 1473

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KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
1. Ballistics 2. Meteorology 3. Wind						

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It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as (TS), (S), (C), or (U).

There is no limitation on the length of the abstract. However, the suggested length is from 150 to 225 words.

14. KEY WORDS: Key words are technically meaningful terms or short phrases that characterize a report and may be used as index entries for cataloging the report. Key words must be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context. The assignment of links, rules, and weights is optional.

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